

CONSTRUCTION PLANS FOR WATER SYSTEM IMPROVEMENTS RELOCATION OF WATERLINES AND AND REHABILITATION OF GROUND STORAGE TANK

OWNED BY:
CITY OF OPELOUSAS
P.O. BOX 1879
OPELOUSAS, LOUISIANA 70570

MAYOR
JULIUS ALSANDOR

ALDERMEN

MARVIN RICHARD, ALDERMAN AT LARGE

MILTON BATISTE, III, DISTRICT A

FLOYD FORD, DISTRICT B

CHARLES W. CUMMINGS, DISTRICT C

SHERELL ROBERTS, DISTRICT D

CHASITY DAVIS, DISTRICT E

CITY MANAGER/PROJECTS

PURVIS MORRISON

CITY ATTORNEY

TRAVIS BROUSSARD

LDH TRACKING NO. 60002429

APPROVED BY:
MORGAN GOUDEAU & ASSOCIATES, INC.

William H. Jarrell III 06-30-21
WILLIAM H. JARRELL, III, P.E.
LIC. NO. 22819

INDEX

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
GENERAL	
1	TITLE SHEET
2	VICINITY MAP
3	WATER PLAN – WALLIOR STREET
4	WATER PLAN – RICE LANE
5	WATER PLAN – PULFORD STREET
6	WATER PLAN – PLANTERS STREET
7	WATER PLAN – I-49/BAYOU CALLAHAN CROSSING
8	GROUND STORAGE TANK REHABILITATION PLAN – MED-SOUTH WELL SITE
9	WATER PLAN – WATER TREATMENT PLANT BY-PASS LINE
10	TYPICAL DETAILS
11	TYPICAL DETAILS

TYPE OF CONSTRUCTION

WATER DISTRIBUTION LINES, GROUND STORAGE
TANK REHABILITATION

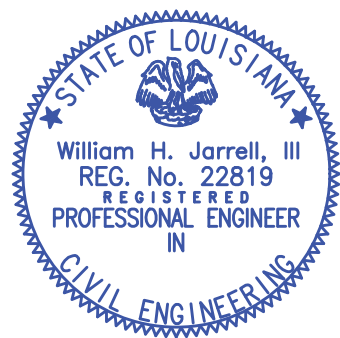
CONTRACTOR'S LICENSE REQ'D:
MUNICIPAL AND PUBLIC WORKS CONSTRUCTION

H WELL SITE

PREPARED BY:
MORGAN GOUDEAU AND ASSOCIATES, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1703 WEST LANDRY STREET
OPELOUSAS, LOUISIANA

PROJECT W#302
JUNE, 2021

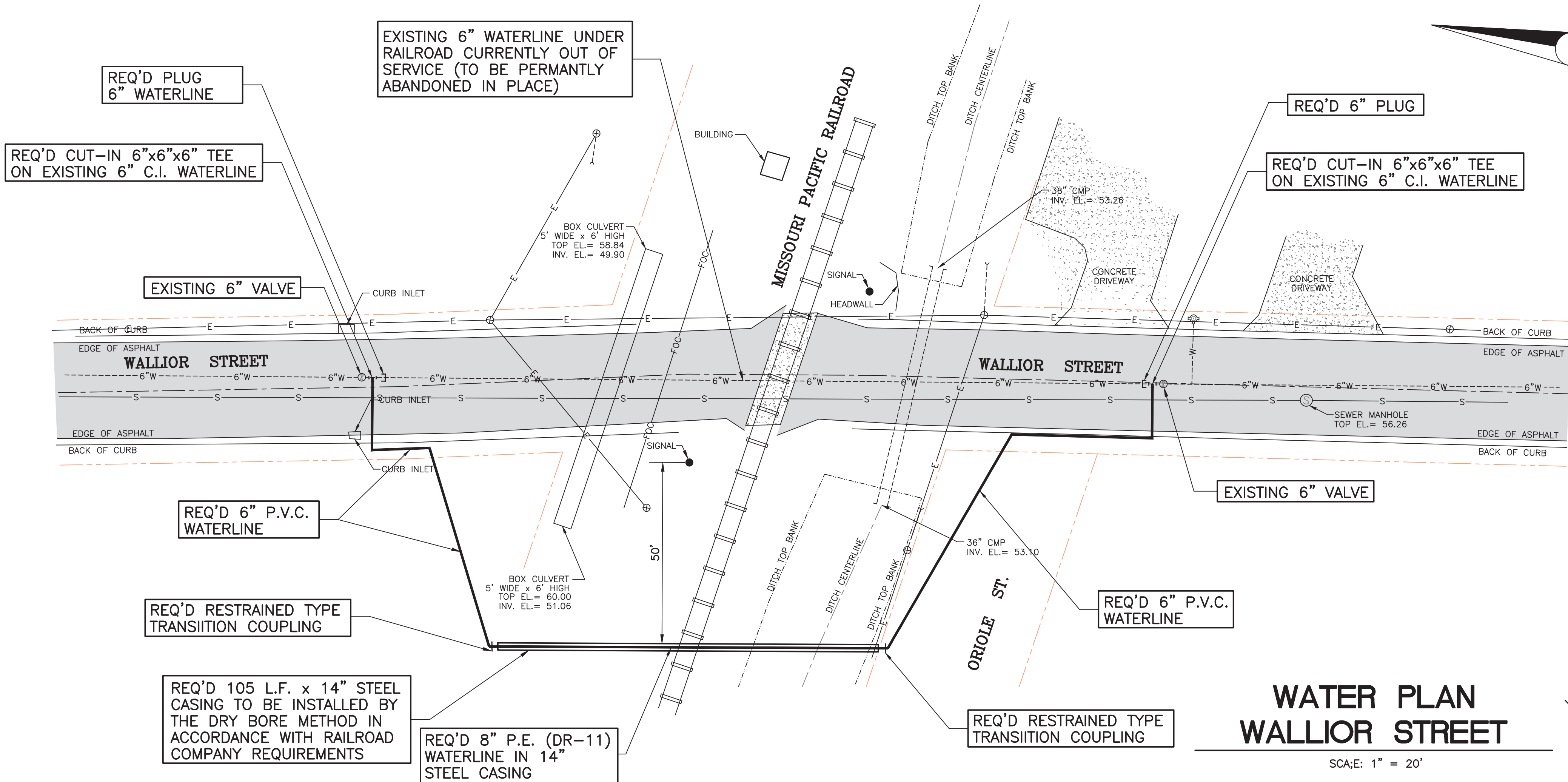
PROJECT NO.		W#302	
MORGAN GOUDEAU & ASSOCIATES			
CONSULTING ENGINEERS			
1703 west landry street			
OPELOUSAS LOUISIANA			
		NO.	DATE
		REVISION DESCRIPTION	
		BY	
		SCALE: AS SHOWN	
		DATE: 08-30-21	
		DESIGNED BY: WHJ	
		CHECKED BY: KB III	
		DRAWN BY: D.L.S.	
TITLE SHEET			
WATER SYSTEM IMPROVEMENTS			
CITY OF OPELOUSAS			
ST. LANDRY PARISH, LOUISIANA			
SHEET NUMBER		1	



William H. Jarrell, III
06-30-21

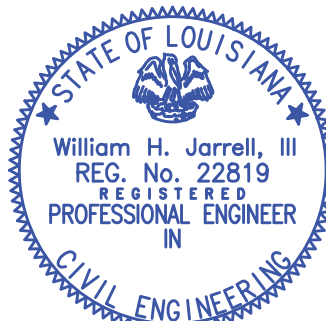
PROJECT NO. W#302		MORGAN GOUDEAU & ASSOCIATES consulting engineers 1703 west landry street OPELOUSAS LOUISIANA				VICINITY MAP		SHEET NUMBER
						SCALE: 1" = 1000'		WATER SYSTEM IMPROVEMENTS CITY OF OPELOUSAS ST. LANDRY PARISH, LOUISIANA
						DATE: 06-30-21		
						DESIGNED BY: WHJ		
						CHECKED BY: KB III		
						DRAWN BY: D.L.S.		
						REVISION DESCRIPTION		
						BY		
						NO.		DATE

- LEGEND**
- ⊕ POWER POLE
 - GUY ANCHOR
 - OVERHEAD ELECTRIC LINE
 - ⊙ WATER VALVE
 - ⊕ FIRE HYDRANT
 - ⊕ WATER METER
 - 6"W--- EXISTING WATER LINE
 - ⊙ SEWER MANHOLE
 - ⊕ SEWER CLEANOUT
 - S SEWER MAINS
 - SFM SEWER FORCE MAINS
 - CHAIN LINK FENCE



WATER PLAN WALLIOR STREET

SCALE: 1" = 20'



William H. Jarrell, III
06-30-21

- GENERAL NOTES:**
- CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN THE CITY WATER DEPARTMENT, ENGINEER AND RAILROAD COMPANY. CONTACT INFORMATION FOR REPRESENTATIVES OF THE CITY'S WATER DEPARTMENT AND RAILROAD COMPANY WILL BE PROVIDED TO THE SUCCESSFUL CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.
 - PVC WATER PIPE 4" AND LARGER TO BE C-900, DR-25 MEETING THE SPECIFICATIONS OF AWWA STANDARD C-900, PVC WATER PIPE 3" AND SMALLER TO BE PRESSURE CLASS 180 (SDR-35) MEETING THE SPECIFICATIONS OF ASTM D2241. POLYETHYLENE TO BE P.E. 4710, DR-11 (DIPS) MEETING THE SPECIFICATIONS OF AWWA C-906 AND ASTM F714. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT OR FLANGED WITH PROPER TRANSITION GASKETS AND WILL BE PAID FOR BY WEIGHT AS PROVIDED IN THE BID FORM.
 - ALL PLASTIC PIPE SHALL BE INSTALLED WITH TRACER WIRE (REF. DETAIL SHEET 10 AND SPECIFICATIONS SECTION 02510).
 - NO DIRECT PAYMENT FOR THE REMOVAL OF TREES, SHRUBS AND DEBRIS SHALL BE MADE TO THE CONTRACTOR, UNLESS DESIGNATED OTHERWISE.
 - THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES (VIA LOUISIANA ONE CALL) PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES FOUND IN THE FIELD OR ON THE DRAWINGS PRIOR TO CONSTRUCTION. SHOULD CONFLICTS WITH EXISTING UTILITIES BE DETERMINED TO EXIST, THE LOCATION OF THE WATERLINE MAY BE CHANGED TO AVOID CONFLICT.
 - CONTRACTOR'S ATTENTION IS CALLED TO THE REQUIREMENTS FOR THE RAILROAD CROSSING. A RAILROAD PERMIT HAS BEEN OBTAINED FOR THE RAILROAD CROSSING AND IS INCLUDED IN APPENDIX A OF THE PROJECT MANUAL. CONTRACTOR SHALL COMPLY WITH PERMIT REQUIREMENTS REGARDING INSTALLATION PROCEDURES AND NOTIFICATIONS.
 - CONTRACTOR WILL BE REQUIRED TO SUBMIT AN APPLICATION FOR RIGHT-OF-ENTRY TO RAILWAY AUDITING AND MANAGEMENT SERVICES, INC. AND PAY ALL COSTS ASSOCIATED WITH THE RIGHT-OF-ENTRY APPLICATION. APPLICATION FEE OF \$2,000.00 WILL BE REQUIRED TO BE SUBMITTED WITH THE RIGHT-OF-ENTRY APPLICATION.
 - CONTRACTOR'S ATTENTION IS CALLED TO THE SPECIAL REQUIREMENTS FOR WORKING WITHIN RAILROAD COMPANY RIGHT-OF-WAY. CONTRACTOR WILL BE REQUIRED TO OBTAIN A SEPARATE AND INDEPENDENT POLICY OF RAILROAD PROTECTIVE LIABILITY INSURANCE (RPL). REFER TO THE RAILROAD PERMIT AND SUPPLEMENTAL CONDITIONS FOR SPECIFIC REQUIREMENTS REGARDING INSURANCE.
 - STEEL CASING TO BE OF THE SIZE INDICATED WITH A MINIMUM 0.188" WALL. CASING TO BE INSTALLED BY THE DRY BORE METHOD (WET BORE OR HORIZONTAL DRILLING SHALL NOT BE PERMITTED).
 - CITY STREETS THAT ARE OPEN CUT SHALL BE BACKFILLED WITH FLOWABLE FILL AND THE STREET OPENED TO TRAFFIC AS SOON AS POSSIBLE. UNDER NO CIRCUMSTANCES SHALL A STREET BE COMPLETELY CLOSED OVERNIGHT.

PROFILE
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 5'

REQ'D CUT-IN 6"x6"
TEE ON EXISTING 6"
C.I. WATERLINE

REQ'D 6" C-900
PVC WATERLINE

REQ'D RESTRAINED TYPE
TRANSITION COUPLING

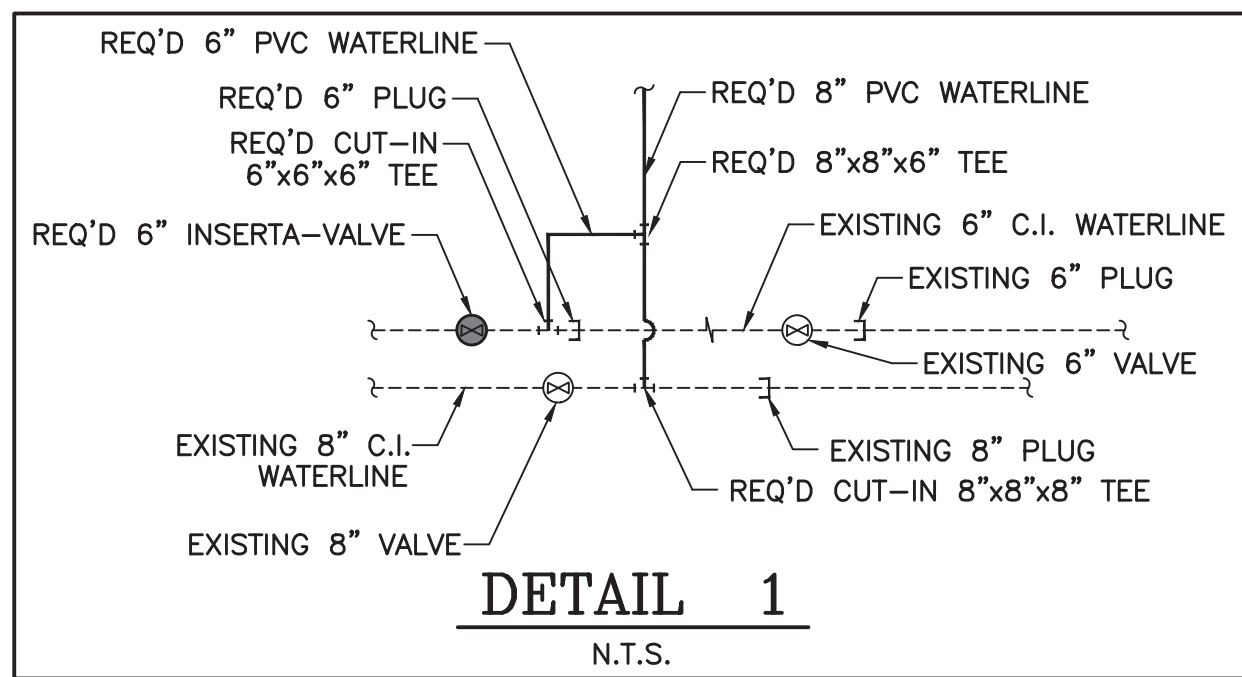
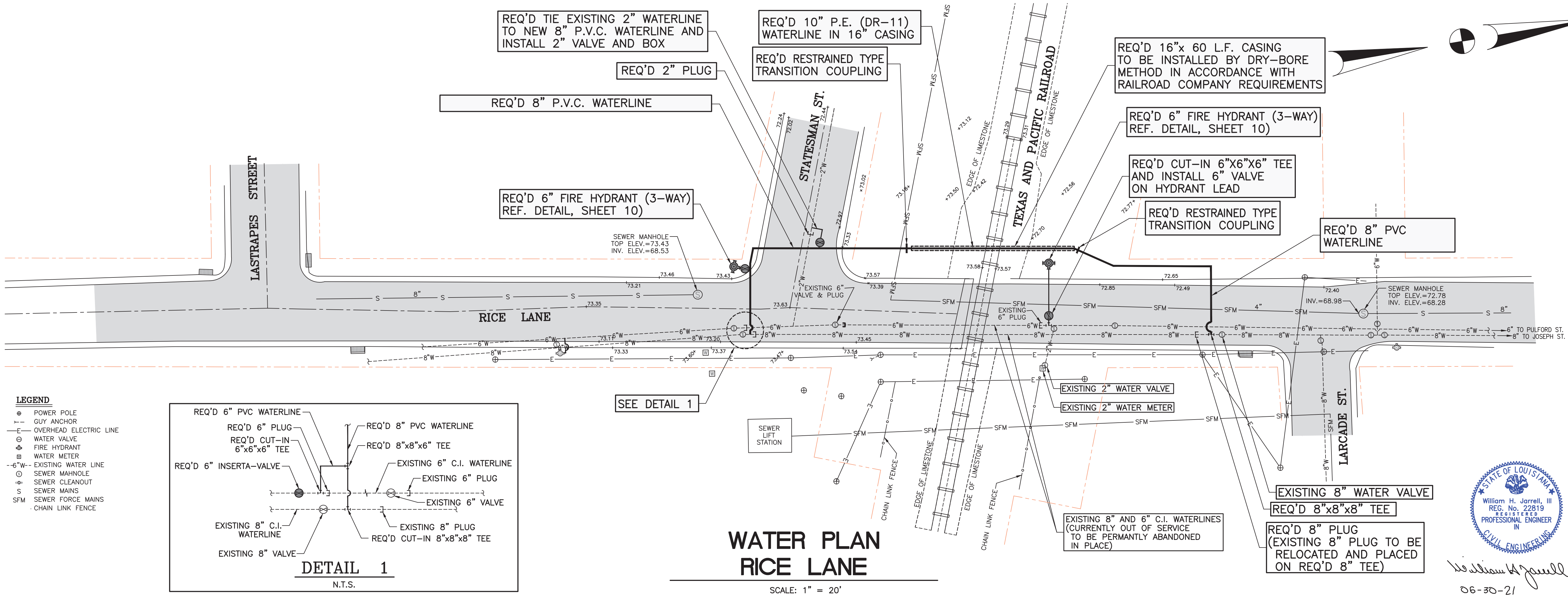
REQ'D 105 L.F. x 14" STEEL
CASING (0.250 WALL) TO BE
INSTALLED BY THE DRY BORE
METHOD IN ACCORDANCE WITH
RAILROAD COMPANY REQUIREMENTS

REQ'D RESTRAINED TYPE
TRANSITION COUPLING

REQ'D 115 L.F. x 8"
P.E. WATERLINE

REQ'D 6" C-900
PVC WATERLINE

REQ'D CUT-IN 6"x6"
TEE ON EXISTING 6"
C.I. WATERLINE



WATER PLAN
RICE LANE

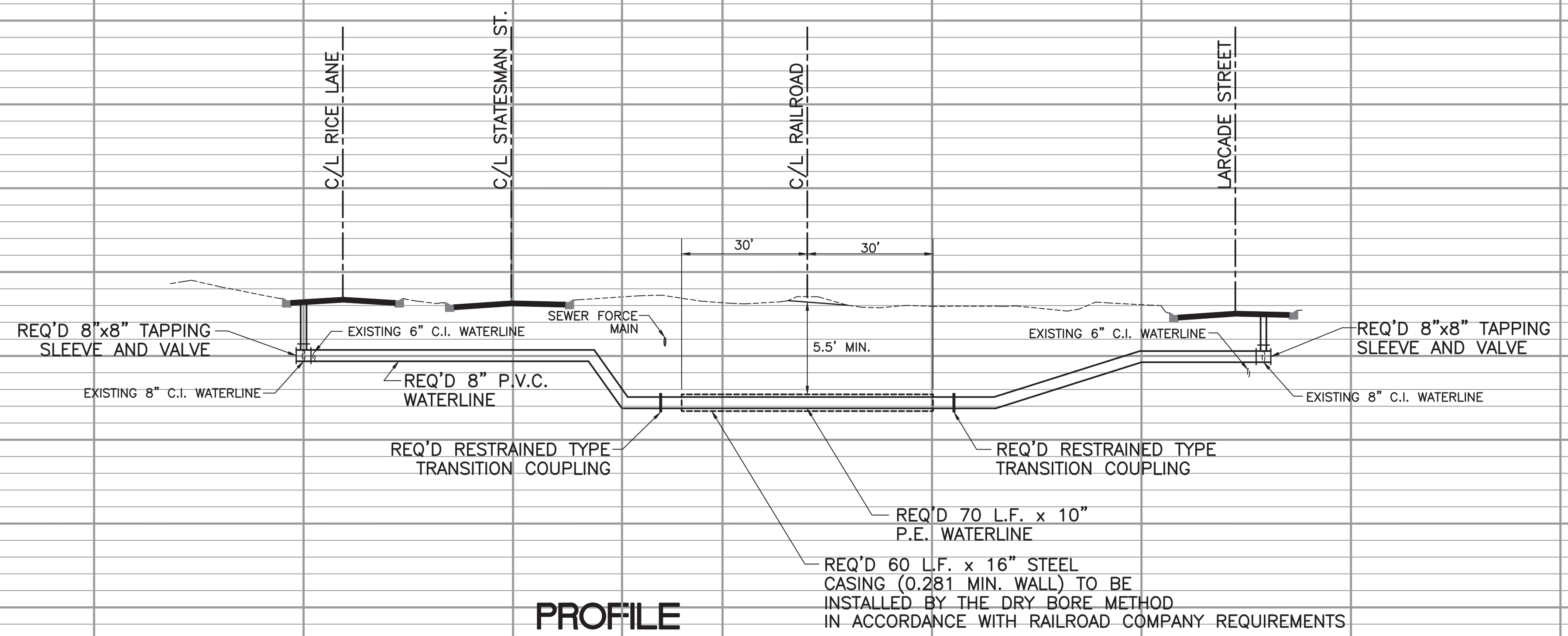
SCALE: 1" = 20'

LEGEND

- ⊙ POWER POLE
- - GUY ANCHOR
- - OVERHEAD ELECTRIC LINE
- ⊙ WATER VALVE
- ⊙ FIRE HYDRANT
- ⊙ WATER METER
- - - - EXISTING WATER LINE
- ⊙ SEWER MANHOLE
- ⊙ SEWER CLEANOUT
- S SEWER MAINS
- SFM SEWER FORCE MAINS
- - - CHAIN LINK FENCE

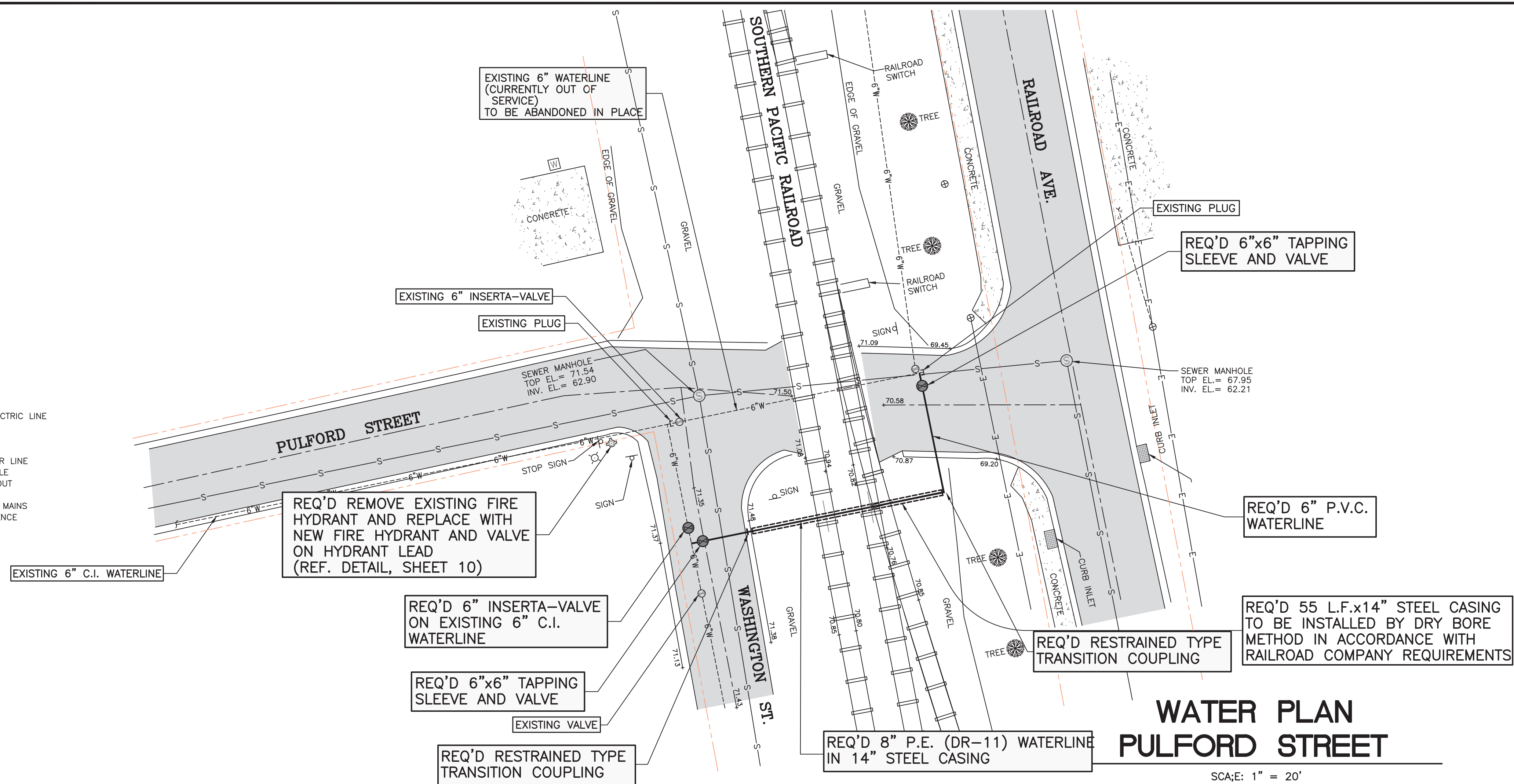
GENERAL NOTES:

- CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN THE CITY WATER DEPARTMENT, ENGINEER AND RAILROAD COMPANY. CONTACT INFORMATION FOR REPRESENTATIVES OF THE CITY'S WATER DEPARTMENT AND RAILROAD COMPANY WILL BE PROVIDED TO THE SUCCESSFUL CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.
- PVC WATER PIPE 4" AND LARGER TO BE C-900, DR-25 MEETING THE SPECIFICATIONS OF AWWA STANDARD C-900. PVC WATER PIPE 3" AND SMALLER TO BE PRESSURE CLASS 160 (SDR-26) MEETING THE SPECIFICATIONS OF ASTM D2241. POLYETHYLENE TO BE P.E. 4710, DR-11 (DIPS) MEETING THE SPECIFICATIONS OF AWWA C-906 AND ASTM F714. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT OR FLANGED WITH PROPER TRANSITION GASKETS AND WILL BE PAID FOR BY WEIGHT AS PROVIDED IN THE BID FORM.
- ALL PLASTIC PIPE SHALL BE INSTALLED WITH TRACER WIRE (REF. DETAIL SHEET 10 AND SPECIFICATIONS SECTION 02510)
- NO DIRECT PAYMENT FOR THE REMOVAL OF TREES, SHRUBS AND DEBRIS SHALL BE MADE TO THE CONTRACTOR, UNLESS DESIGNATED OTHERWISE.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES (VIA LOUISIANA ONE CALL) PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES FOUND IN THE FIELD OR ON THE DRAWINGS PRIOR TO CONSTRUCTION. SHOULD CONFLICTS WITH EXISTING UTILITIES BE DETERMINED TO EXIST, THE LOCATION OF THE WATERLINE MAY BE CHANGED TO AVOID CONFLICT.
- CONTRACTOR'S ATTENTION IS CALLED TO THE REQUIREMENTS FOR THE RAILROAD CROSSING. A RAILROAD PERMIT HAS BEEN OBTAINED FOR THE RAILROAD CROSSING AND IS INCLUDED IN APPENDIX A OF THE PROJECT MANUAL. CONTRACTOR SHALL COMPLY WITH PERMIT REQUIREMENTS REGARDING INSTALLATION PROCEDURES AND NOTIFICATIONS.
- CONTRACTOR WILL BE REQUIRED TO SUBMIT AN APPLICATION FOR RIGHT-OF-ENTRY TO RAILWAY AUDITING AND MANAGEMENT SERVICES, INC. AND PAY ALL COSTS ASSOCIATED WITH THE RIGHT-OF-ENTRY APPLICATION. APPLICATION FEE OF \$2,000.00 WILL BE REQUIRED TO BE SUBMITTED WITH THE RIGHT-OF-ENTRY APPLICATION.
- CONTRACTOR'S ATTENTION IS CALLED TO THE SPECIAL REQUIREMENTS FOR WORKING WITHIN RAILROAD COMPANY RIGHT-OF-WAY. CONTRACTOR WILL BE REQUIRED TO OBTAIN A SEPARATE AND INDEPENDENT POLICY OF RAILROAD PROTECTIVE LIABILITY INSURANCE (RPL). REFER TO THE RAILROAD PERMIT AND SUPPLEMENTAL CONDITIONS FOR SPECIFIC REQUIREMENTS REGARDING INSURANCE.
- STEEL CASING TO BE OF THE SIZE INDICATED WITH A MINIMUM 0 WALL OF 0.188". CASING TO BE INSTALLED BY THE DRY BORE METHOD (WET BORE OR HORIZONTAL DRILLING SHALL NOT BE PERMITTED).
- CITY STREETS THAT ARE OPEN CUT SHALL BE BACKFILLED WITH FLOWABLE FILL AND THE STREET OPENED TO TRAFFIC AS SOON AS POSSIBLE. UNDER NO CIRCUMSTANCES SHALL A STREET BE COMPLETELY CLOSED OVERNIGHT.



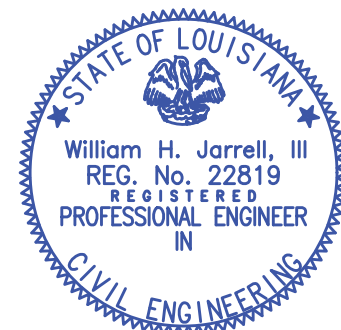
William H. Jorrell, III
06-30-21

SHEET NUMBER		4	
WATER PLAN AND DETAILS		RICE LANE	
WATER SYSTEM IMPROVEMENTS		CITY OF OPELOUSAS	
ST. LANDRY PARISH, LOUISIANA			
SCALE: AS SHOWN	DATE: 06-30-21	DESIGNED BY: WHJ	CHECKED BY: KB III
DRAWN BY: D.L.S.			
REVISION DESCRIPTION			
NO.		DATE	
MORGAN GOUDEAU & ASSOCIATES		consulting engineers	
1703 west		landry street	
OPELOUSAS		LOUISIANA	
PROJECT NO.		W#302	

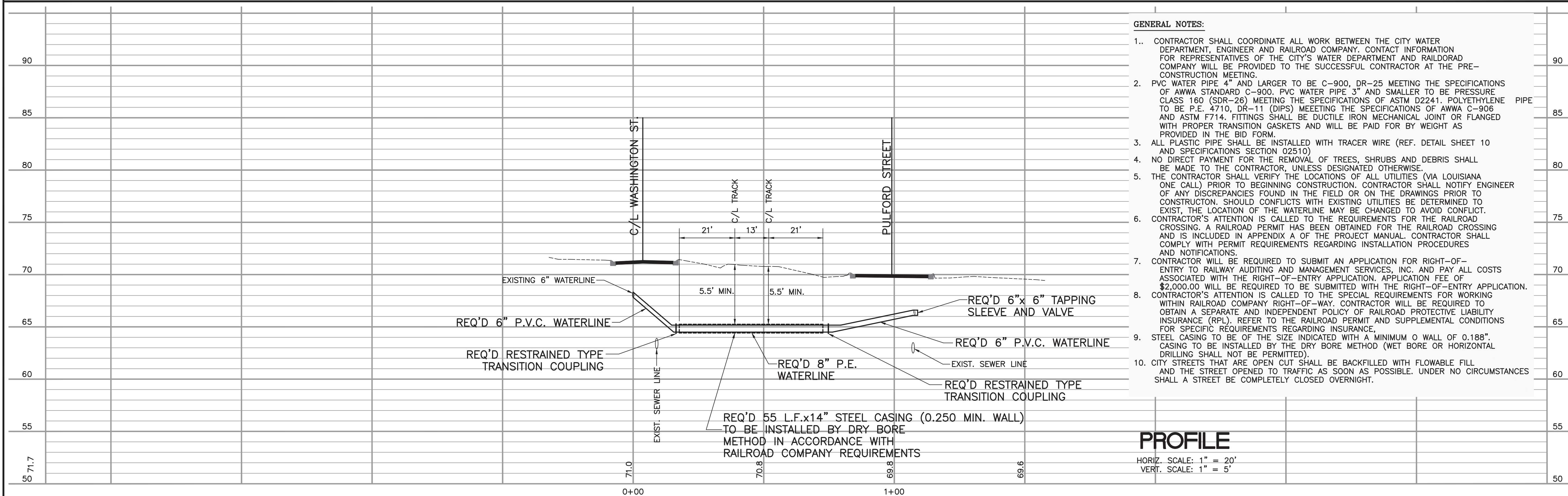


WATER PLAN PULFORD STREET

SCA;E: 1" = 20'



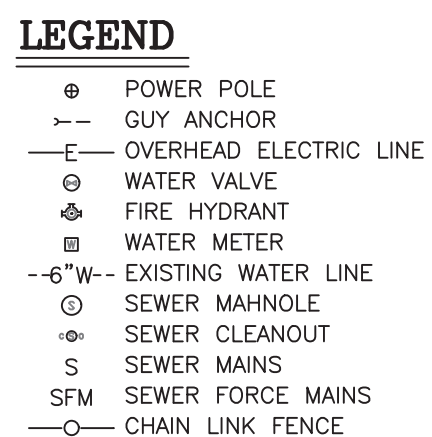
William H. Zurell Jr.
06-30-21



PROFILE

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 5'

1. CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN THE CITY WATER DEPARTMENT, ENGINEER AND RAILROAD COMPANY. CONTACT INFORMATION FOR REPRESENTATIVES OF THE CITY'S WATER DEPARTMENT AND RAILROAD COMPANY WILL BE PROVIDED TO THE SUCCESSFUL CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.
2. PVC WATER PIPE 4" AND LARGER TO BE C-900, DR-25 MEETING THE SPECIFICATIONS OF AWWA STANDARD C-900. PVC WATER PIPE 3" AND SMALLER TO BE PRESSURE CLASS 160 (SDR-2) MEETING THE SPECIFICATIONS OF ASTM D2241 - POLYETHYLENE PIPE (P.E. 4710) DR-410. DR-410 MEETING THE SPECIFICATIONS OF AWWA C-906 AND ASTM F714. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT OR FLANGED WITH PROPER TRANSITION GASKETS AND WILL BE PAID FOR BY WEIGHT AS PROVIDED IN THE BID FORM.
3. ALL PLASTIC PIPE SHALL BE INSTALLED WITH TRACER WIRE (REF. DETAIL SHEET 10 AND SPECIFICATIONS SECTION 02510)
4. NO DIRECT PAYMENT FOR THE REMOVAL OF TREES, SHRUBS AND DEBRIS SHALL BE MADE TO THE CONTRACTOR, UNLESS DESIGNATED OTHERWISE.
5. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES (VIA LOUISIANA UTILITY CALL) PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES FOUND IN THE FIELD OR ON THE DRAWINGS PRIOR TO CONSTRUCTION. SHOULD CONFLICTS WITH EXISTING UTILITIES BE DETERMINED TO EXIST, THE LOCATION OF THE WATERLINE MAY BE CHANGED TO AVOID CONFLICT.
6. CONTRACTOR'S ATTENTION IS CALLED TO THE REQUIREMENTS FOR THE RAILROAD CROSSING. A RAILROAD PERMIT HAS BEEN OBTAINED FOR THE RAILROAD CROSSING AND IS INCLUDED IN APPENDIX A OF THE PROJECT MANUAL. CONTRACTOR SHALL COMPLY WITH PERMIT REQUIREMENTS REGARDING INSTALLATION PROCEDURES AND NOTIFICATIONS.
7. CONTRACTOR WILL BE REQUIRED TO SUBMIT AN APPLICATION FOR RIGHT-OF-ENTRY TO RAILWAY AUDITING AND MANAGEMENT SERVICES, INC. AND PAY ALL COSTS ASSOCIATED WITH THE RIGHT-OF-ENTRY APPLICATION. APPLICATION FEE OF \$2,000.00 WILL BE REQUIRED TO BE SUBMITTED WITH THE RIGHT-OF-ENTRY APPLICATION.
8. CONTRACTOR'S ATTENTION IS CALLED TO THE SPECIAL REQUIREMENTS FOR WORKING WITHIN RAILROAD COMPANY RIGHT-OF-WAY. CONTRACTOR WILL BE REQUIRED TO OBTAIN A SEPARATE AND INDEPENDENT POLICY OF RAILROAD PROTECTIVE LIABILITY INSURANCE (RPL). REFER TO THE RAILROAD PERMIT AND SUPPLEMENTAL CONDITIONS FOR SPECIFIC REQUIREMENTS REGARDING INSURANCE.
9. STEEL CASING TO BE OF THE SIZE INDICATED WITH A MINIMUM O WALL OF 0.188". CHIMNEY TO BE INSTALLED BY THE DRY BORE METHOD (WET BORE OR HORIZONTAL DRILLING SHALL NOT BE PERMITTED).
10. CITY STREETS THAT ARE OPEN CUT SHALL BE BACKFILLED WITH FLOWABLE FILL AND THE STREET OPENED TO TRAFFIC AS SOON AS POSSIBLE, UNDER NO CIRCUMSTANCES



William H. Zell
06-30-21



HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 5'

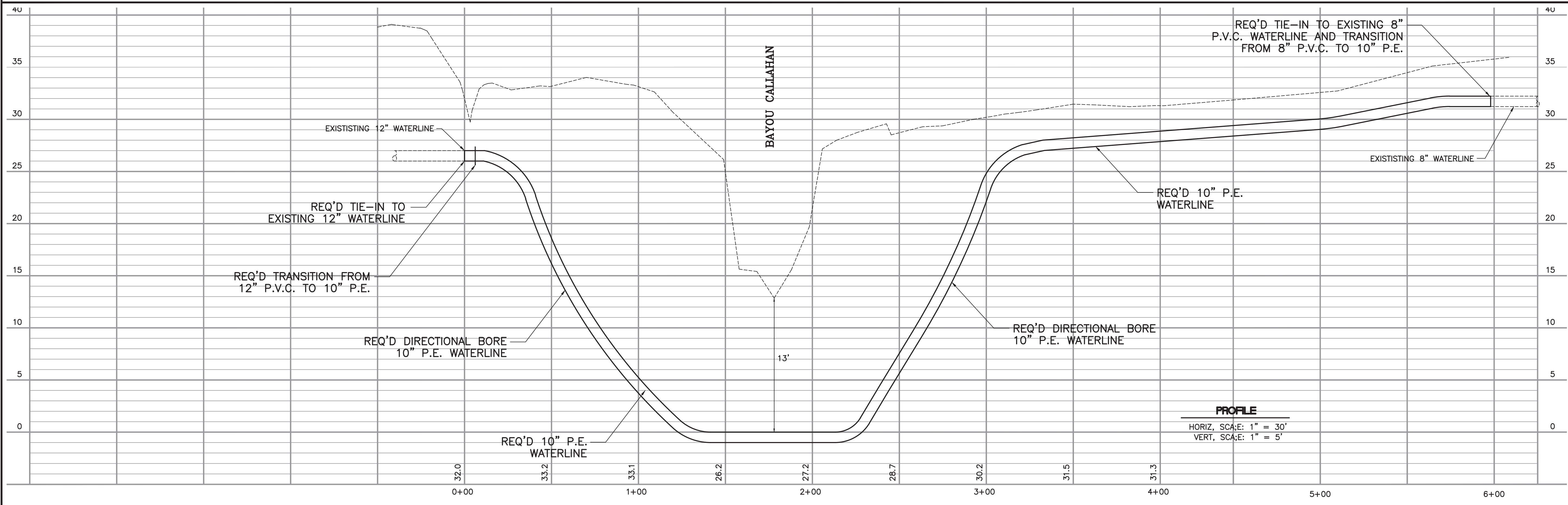
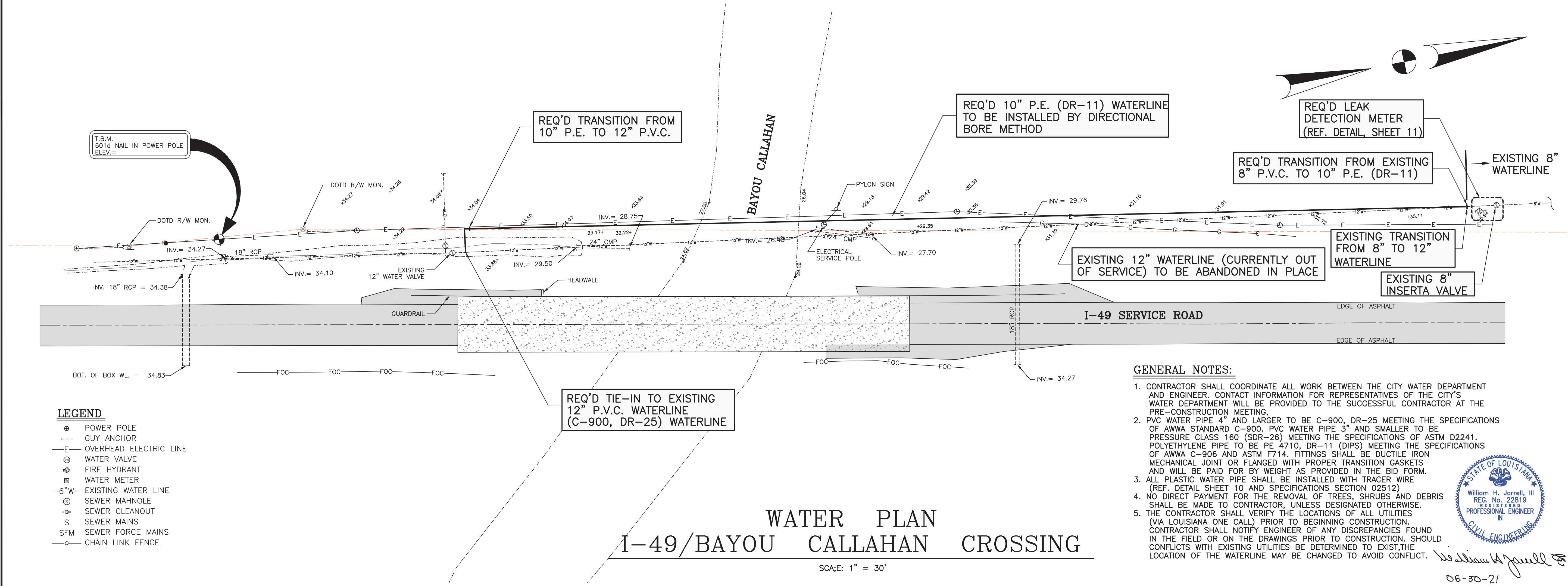




PHOTO NO. 1



PHOTO NO. 2

- GENERAL NOTES:
1. THE SCOPE OF WORK INCLUDES THE TANK DRAINING, TANK REPAIR, CLEANING, APPLYING AN AROMATIC POLYUREA COATING ON THE INTERIOR AND EXTERIOR OF THE EXISTING GROUND STORAGE TANK, DISINFECTION OF THE TANK AND OBTAINING LDH APPROVAL TO PLACE THE TANK BACK INTO SERVICE. REFER T60 SECTION 09970 OF THE TECHNICAL SPECIFICATIONS.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK ON THE TANK WITH THE ENGINEER AND CITY OF OPELOUSAS WATER DEPARTMENT PRIOR TO TAKING THE TANK OUT OF SERVICE.
 3. THE TANK HAS NUMEROUS RUST AREAS AND SEVERE DETERIORATION THAT NEED REPAIR PRIOR TO THE CLEANING AND COATING OF THE TANK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT THE TANK TO DETERMINE EXTENT OF REPAIR WORK REQUIRED TO ACCOMMODATE THE SPECIFIC COATING TO BE APPLIED. REFERENCE SECTION 09970 OF THE TECHNICAL SPECIFICATIONS.
 4. AFTER THE COATING WORK ON THE TANK HAS BEEN COMPLETED, INSPECTED AND APPROVED BY THE ENGINEER AND CITY, THE CONTRACTOR SHALL DISINFECT THE TANK IN ACCORDANCE WITH AWWA STANDARD C 652. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND TEXTING OF ALL SAMPLES. BACTERIORLOGICAL TESTING SHALL BE DONE BY A LAB THAT IS CERTIFIED BY THE STATE HEALTH OFFICE.
 5. COLOR OF THE EXTERIOR COATING SHALL BE SELECTED BY THE CITY DURING THE SHOP DRAWING APPROVAL PROCESS. COLOR SHALL BE A STANDARD COLOR PROVIDED BY THE COATING MANUFACTURER.
 6. ALL ABOVE GROUND PIPING AT THE TANK AND THE DISCHARGE PIPING AT THE WATER WELL IMMEDIATELY ADJACENT TO THE GROUND STORAGE TANK SHALL BE PAINTED IN ACCORDANCE WITH SECTION 09900 OF THE TECHNICAL SPECIFICATIONS. COLOR SHALL BE SELECTED BY THE CITY.



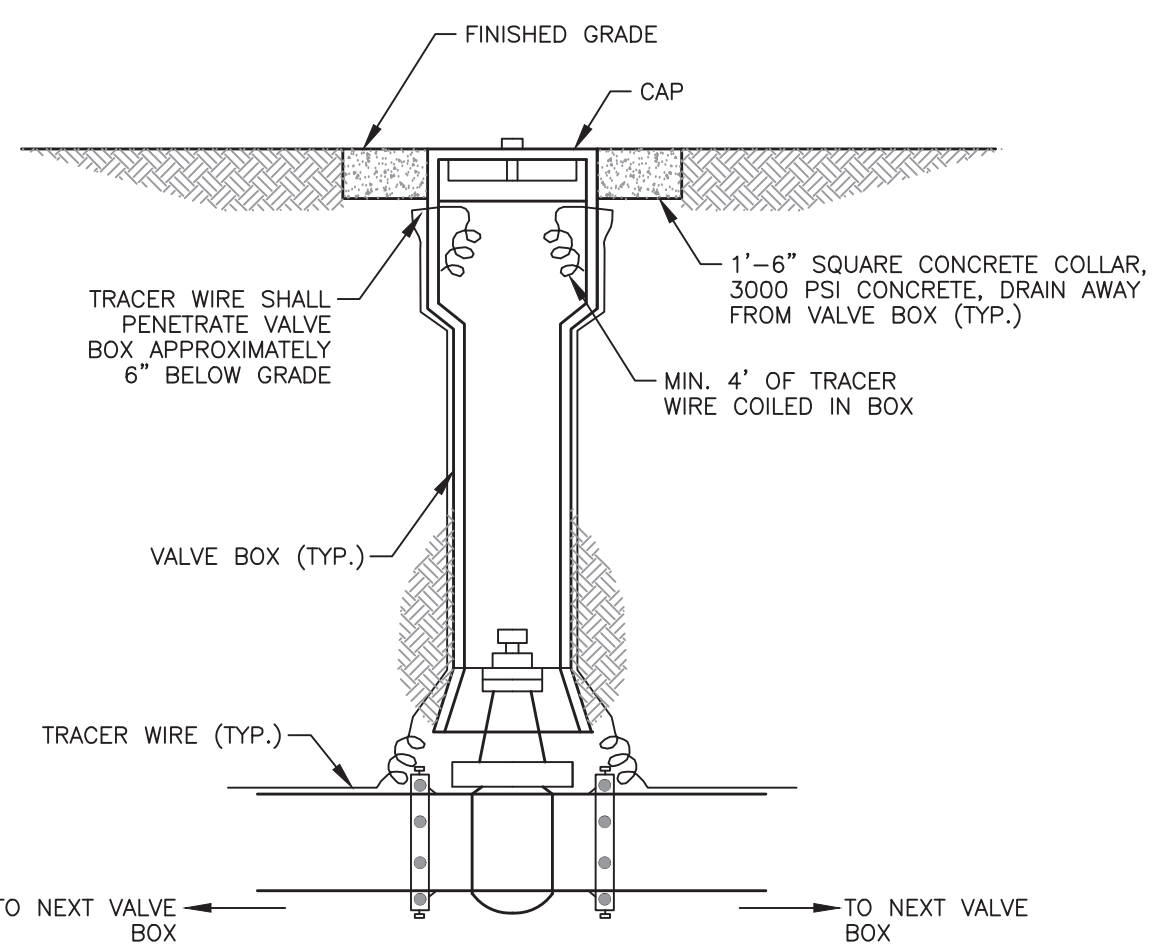
William H. Jarrell, III
06-30-21

SHEET NUMBER		8
GROUND STORAGE TANK REHABILITATION PLAN		
WATER SYSTEM IMPROVEMENTS CITY OF OPELOUSAS ST. LANDRY PARISH, LOUISIANA		
SCALE: AS SHOWN	DESIGNED BY: WHJ	DRAWN BY: D.L.S.
DATE: 06-30-21	CHECKED BY: KB III	
NO.		DATE
BY		REVISION DESCRIPTION
MORGAN GOUDEAU & ASSOCIATES		LOUISIANA
consulting engineers		street
1703 west		landry
OPELOUSAS		LOUISIANA
PROJECT NO.		W#302



William H. Zurell
06-30-21

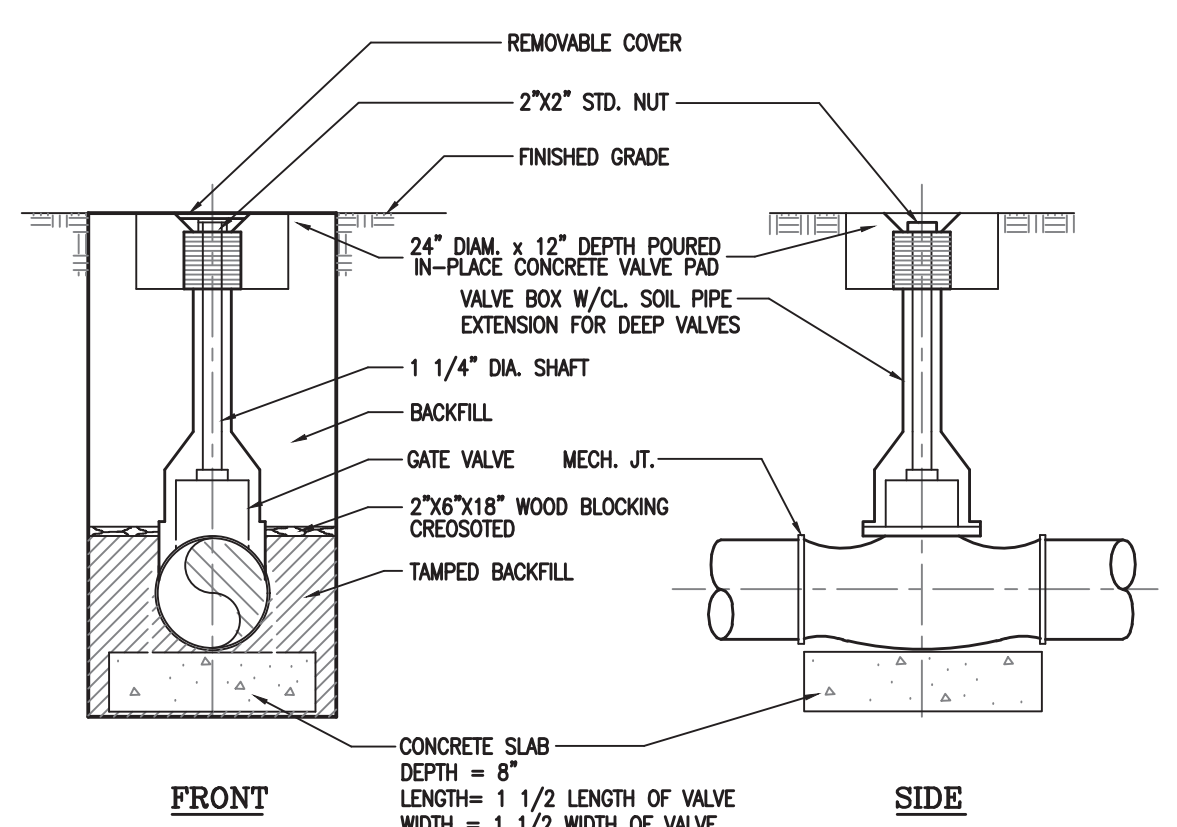
1. CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN THE WATER TREATMENT PLANT SUPERVISOR AND ENGINEER TO ASSURE THE WELL IS ISOLATED FROM THE PLANT PRIOR TO DISCONNECTING AND REMOVING DISCHARGE PIPING. CONTACT INFORMATION FOR REPRESENTATIVES OF THE CITY'S WATER PLANT SUPERVISOR WILL BE PROVIDED TO THE SUCCESSFUL CONTRACTOR AT THE RRE-CONSTRUCTION MEETING.
2. PRIOR TO PLACING THE WELL BACK INTO SERVICE, THE WELL DISCHARGE PIPING SHALL BE DISINFECTED IN ACCORDANCE WITH LDH REQUIREMENTS. REFER TO SECTION 02510, ARTICLE 3.04 OF THE TECHNICAL SPECIFICATIONS FOR DISINFECTION REQUIREMENTS.
3. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES (VIA LOUISIANA ONE CALL) PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES FOUND IN THE FIELD OR ON THE DRAWINGS PRIOR TO CONSTRUCTION. SHOULD CONFLICTS WITH EXISTING UTILITIES BE DETERMINED TO EXIST, THE LOCATION OF THE WATERLINE MAY BE CHANGED TO AVOID CONFLICTS.



TYPICAL TRACER WIRE VALVE BOX INSTALLATION

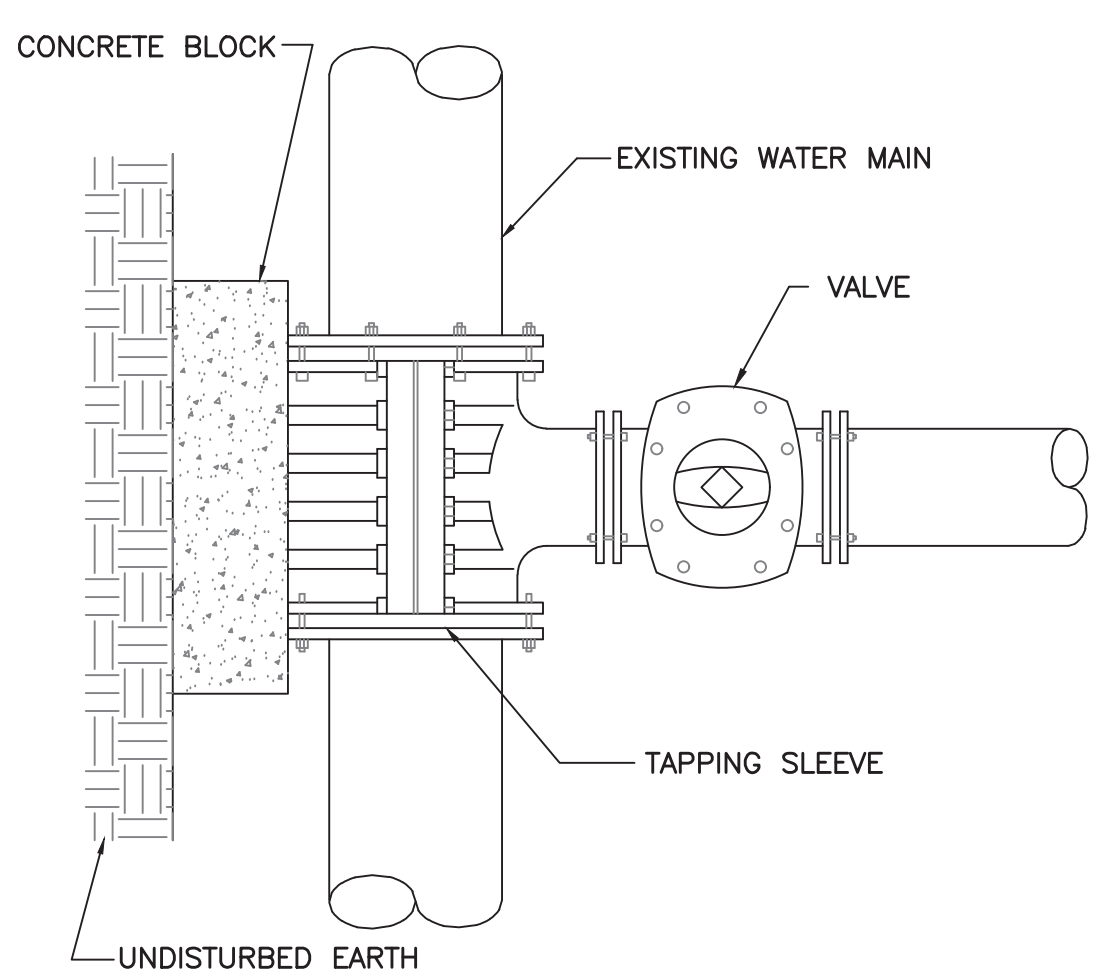
NOTES:

1. TRACER WIRE SHALL BE TIED INTO EVERY VALVE, CLEANOUT, BLOW-OFF, ARV, AND OTHER DEVICES OR CHANGES IN DIRECTION.
2. TRACER LEADS SHALL BE INSTALLED IN APPROVED CURB BOXES OR TRACER WIRE ACCESS BOXES. ACCESS BOX STYLE (LIGHT DUTY, DRIVEWAY, OR ROADWAY) SHALL BE DETERMINED BY BOX LOCATION.
3. CURB BOXES SHALL BE INSTALLED FLUSH WITH GROUND AND LOCATED OVER PIPE LINE TO WHICH TRACER LEAD IS ATTACHED.
4. TRACER LEADS SHALL HAVE ADEQUATE SLACK THROUGHOUT THE INSTALLATION TO REDUCE BREAKAGE FROM PULLING.
5. 4' OF SLACK SHALL BE LEFT IN BOX AND WIRES SHALL BE PROPERLY CONNECTED TO THE LID TOP PER MANUFACTURERS SPECIFICATIONS. ALL TRACER WIRES SHALL BE OF #12 TW SOLID COPPER WIRE.
6. EARTH AROUND VALVE BOXES SHALL BE THOROUGHLY COMPACTED AT THE TIME OF INSTALLATION. CONTRACTOR SHALL MAKE ADJUSTMENTS FOR FINAL GRADING, SODDING, PAVING, AND RESTORATION AT THE COMPLETION OF EACH PROJECT. CONTRACTOR SHALL PROTECT THE LEADS, BOXES, AND ALL TRACER WIRES THROUGHOUT THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WATER AND WASTEWATER UTILITY LOCATIONS THROUGHOUT THE PROJECT.
7. PROVIDED ONE TRACER LEAD IN EACH DIRECTION UNLESS OTHERWISE NOTED.



VALVE ASSEMBLY DETAIL

- NOTES: 1. FOR VALVES LOCATED GREATER THAN FOUR(4) FEET BELOW GRADE AN EXTENSION STEM TO WITHIN TWO(2) FEET OF GRADE SHALL BE FURNISHED.
2. CONTRACTOR SHALL FURNISH TWO(2) VALVE OPERATORS PER PROJECT.
3. CONTRACTOR SHALL FURNISH & INSTALL A VALVE IDENTIFICATION MARKER WITH EACH VALVE INSTALLED. MARKER TO BE CARSONITE FLAT TOP LINEMARKER OR EQUAL.

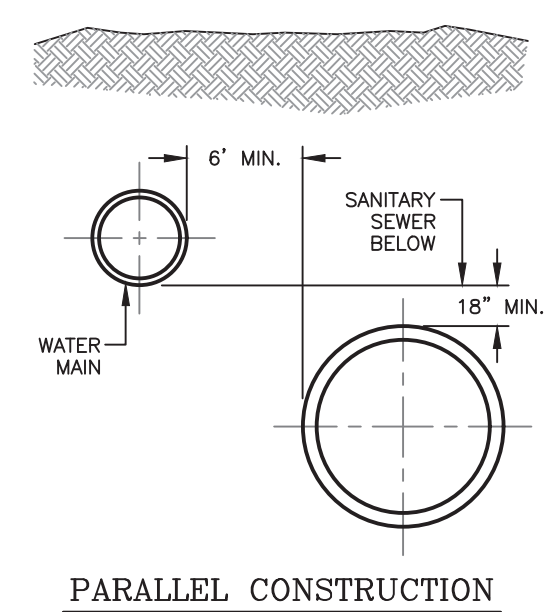


TYPICAL TAPPING SLEEVE & VALVE

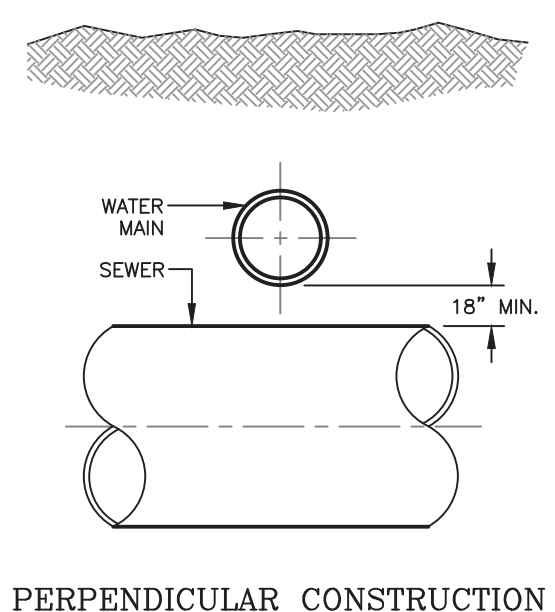
not to scale



William H. Jarrell, III
06-30-21



PARALLEL CONSTRUCTION



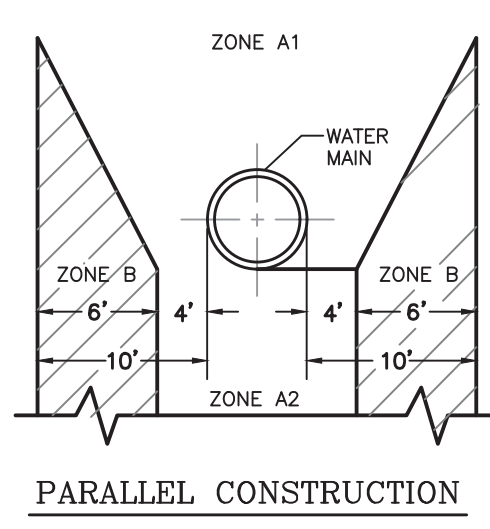
PERPENDICULAR CONSTRUCTION

BASIC SEPARATION REQUIREMENTS:
WATER MAINS AND SEWERS SHOULD BE SEPARATED AS FAR AS IS REASONABLE IN BOTH THE HORIZONTAL AND VERTICAL DIRECTIONS WITH SEWERS LOWER THAN WATER MAINS
PARALLEL CONSTRUCTION: WATER AND SEWER MAINS SHALL BE CONSTRUCTED IN SEPARATE TRENCHES AND THE WATER MAIN SHALL BE A MINIMUM OF 18" ABOVE THE SANITARY SEWER. THE HORIZONTAL DISTANCE BETWEEN PRESSURE WATER MAINS AND SEWERS SHALL BE AT LEAST 10 FEET
PERPENDICULAR CONSTRUCTION (CROSSING): PRESSURE WATER MAINS SHALL BE AT LEAST 18" ABOVE SANITARY SEWERS WHERE THESE LINES MUST CROSS.

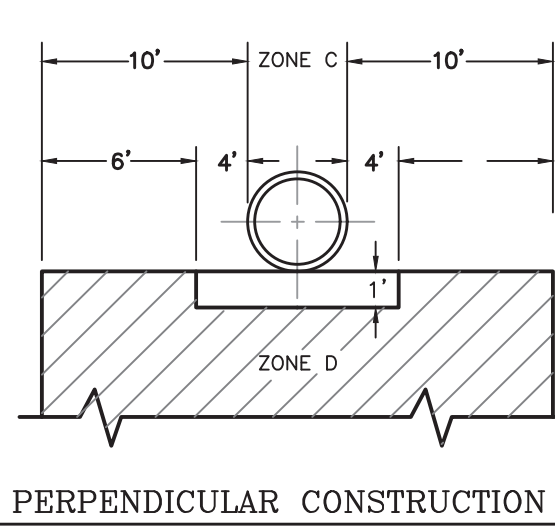
REQUIRED SEPARATION BETWEEN WATER MAINS AND SANITARY SEWERS

NOTE:

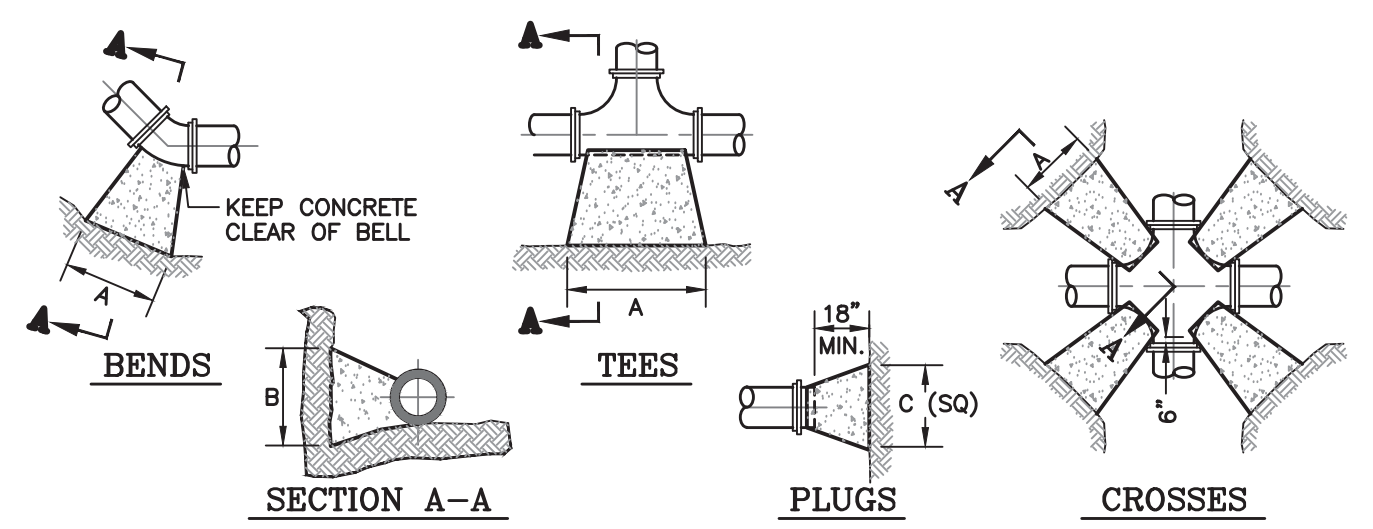
- THE FOLLOWING REQUIREMENTS SHALL BE ENFORCED WHERE WATER MAIN SEPARATION FROM SEWER, AS DETAILED ABOVE, CANNOT BE MAINTAINED
IF AN EXISTING SEWER IS LOCATED WITHIN ZONES A1, A2, B, C, OR D OF A PROPOSED WATER MAIN, THE FOLLOWING SPECIAL REQUIREMENTS APPLY:
ZONE A: NO WATER MAINS SHALL BE CONSTRUCTED WITHOUT SPECIAL PERMISSION FROM THE HEALTH REGULATOR. IF PERMISSION IS GRANTED, THE SEWER PIPE SHALL BE ENCASED WITH REINFORCED CONCRETE AND THE WATER MAIN SHALL BE OF CLASS 200 PIPE OR EQUIVALENT.
ZONE B: IF THE SEWER DOES NOT MEET ZONE B REQUIREMENTS, THE WATER MAIN SHALL BE OF PRESSURE CLASS 200 PIPE FOR P10 AND CLASS 350 FOR DIP. SEWER PIPE SHALL BE CONSTRUCTED EQUAL TO WATER PIPE AND TESTED FOR WATER TIGHTNESS.
ZONE C: NO WATER MAINS SHALL BE CONSTRUCTED WITHOUT SPECIAL PERMISSION FROM THE HEALTH REGULATOR. IF PERMISSION IS GRANTED, THE SEWER PIPE SHALL BE ENCASED WITH REINFORCED CONCRETE AND THE WATER MAIN SHALL BE OF CLASS 200 PIPE OR EQUIVALENT.
ZONE D: THE SEWER SHALL BE ENCASED WITH REINFORCED CONCRETE.
* IF PERMISSION IS GRANTED FROM THE HEALTH REGULATOR.



PARALLEL CONSTRUCTION



PERPENDICULAR CONSTRUCTION



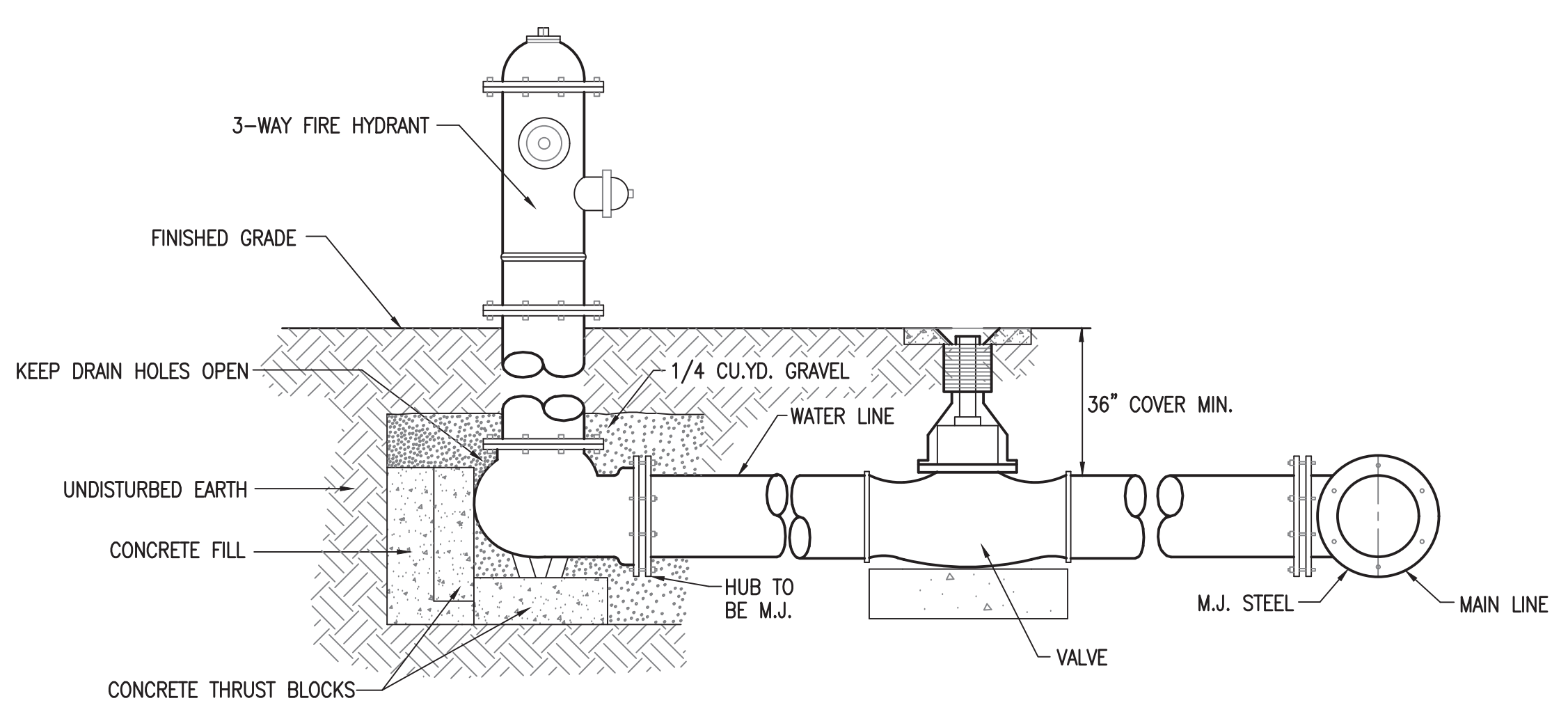
SIZE	CROSSES/90° BENDS		45° BENDS		11-1/4° BENDS		22-1/2° BENDS		TEES & PLUGS	
	AREA SQ. FT.	"A" "B"	AREA SQ. FT.	"A" "B"	AREA SQ. FT.	"A" "B"	AREA SQ. FT.	"A" "B"	AREA SQ. FT.	"A" "B"
6"	4.0	32" 18"	2.2	18" 16"	0.8	5" 18"	1.1	9" 18"	2.8	23" 18"
8"	7.0	42" 24"	3.8	23" 24"	1.0	6" 24"	2.0	12" 24"	5.0	30" 24"
10"	11.0	53" 30"	8.2	30" 30"	1.6	8" 30"	3.1	15" 30"	8.0	38" 30"
12"	18.1	64" 36"	10.0	40" 36"	2.2	9" 36"	4.4	18" 36"	11.3	45" 36"
14"	21.6	74" 42"	12.5	43" 42"	3.0	10" 42"	6.0	21" 42"	15.5	53" 42"
16"	28.3	85" 48"	17.7	53" 48"	4.0	12" 48"	7.7	23" 48"	20.1	60" 48"

* SURFACE AREA OF BEARING SOIL IS PROVIDED FOR 200 PSI MAXIMUM PRESSURE (INCLUDING SURGE) AND 2000 PSF SOIL BEARING. IF PRESSURE IS HIGHER OR SOIL BEARING IS POTENTIALLY LOWER, CONSULT THE ENGINEER FOR ADJUSTMENTS.

NOTES:

1. COVER OVER TOP OF PIPE SHALL BE BELOW THE FROST LINE OR 30" MINIMUM, 72" MAXIMUM ACCORDING TO REGULATORY REQUIREMENTS. IF GRADING PLANS RECEIVED BY THE ENGINEER/OWNER WITH THE REQUEST FOR WATER MAIN LAYOUT INDICATE ADJUSTMENTS TO EXISTING GRADE, THEN PIPE SHALL BE INSTALLED TO MEET MINIMUM AND MAXIMUM COVER FROM PROPOSED GRADES SHOWN ON THE SAID PLANS.
2. THRUST BLOCKS SHALL BE BUILT AGAINST UNDISTURBED SOIL WITH ADEQUATE BACKING TO PREVENT MOVEMENT OF FITTING.
3. NO THRUST BLOCKS TO BE PLACED IN SEWER LATERAL DITCHES.
4. THRUST BLOCKING MUST FIT WITHIN THE EASEMENT.
5. IN SOME CASES, ADDITIONAL RESTRAINT MAY BE REQUIRED BASED ON 150 PSI STATIC PRESSURE, PLUS 50 PSI WATER HAMMER AND 2000 PSF SOIL BEARING.
6. POLYETHYLENE ENGAGEMENT IS REQUIRED ON ALL D.I. PIPE AND FITTINGS.
7. THRUST BLOCKING SHALL BE PERFORMED SUCH THAT PIPE JOINTS AND BOLTS ARE ACCESSIBLE.
8. SUFFICIENT CLEARANCE SHALL BE ALLOWED BETWEEN CONCRETE AND BOLTS FOR FUTURE MAINTENANCE.
9. ALL W.J. AND F.L.G. FITTINGS TO RECEIVE THRUST BLOCKS SHALL BE WRAPPED IN POLYWRAP. CONTRACTOR SHALL ENSURE THAT POLYWRAP EXTENDS FAR ENOUGH BEYOND THE FITTING TO ENCLOSE ALL BOLTS WITHIN THE POLYWRAP.
10. ALL W.J. AND F.L.G. FITTINGS TO RECEIVE THRUST BLOCKS SHALL BE WRAPPED IN POLYWRAP. CONTRACTOR SHALL ENSURE THAT POLYWRAP EXTENDS FAR ENOUGH BEYOND THE FITTING TO ENCLOSE ALL BOLTS WITHIN THE POLYWRAP.
11. THRUST BLOCKING DETAILS ARE SHOWN HERE FOR TYPICAL INSTALLATIONS. IN SOME CASES, ADDITIONAL RESTRAINT MAY BE REQUIRED.
12. PORTLAND CEMENT CONCRETE USED FOR THRUST BLOCKS SHALL BE MIN. 3000 PSI CONCRETE.
13. FOR UNSTABLE SOIL CONDITIONS, CHECK WITH ENGINEER FOR THRUST BLOCK DIMENSIONS.
14. FOR MAIN SIZES GREATER THAN 18", SEE ENGINEER FOR THRUST BLOCK DIMENSIONS.

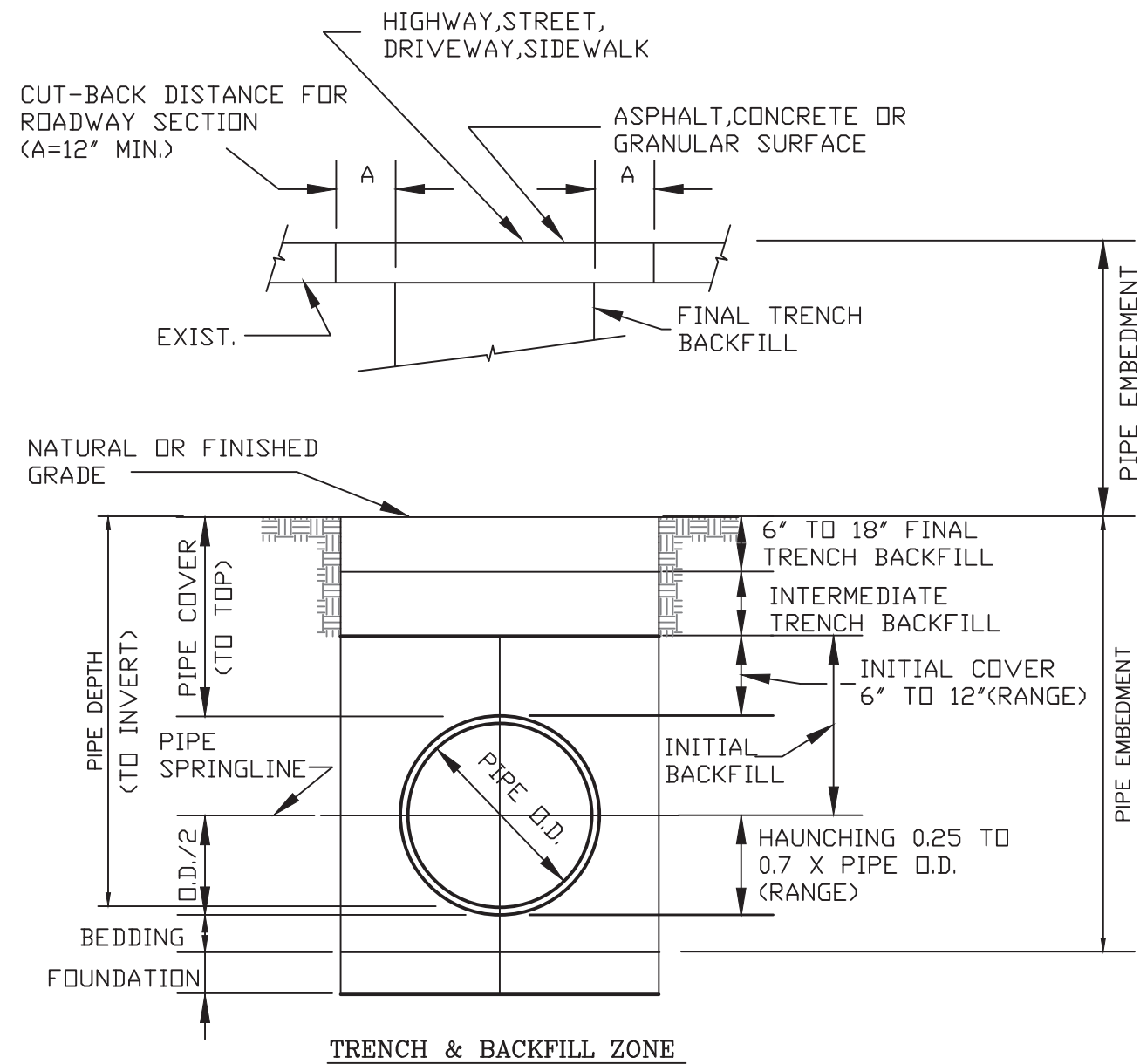
THRUST BLOCK DETAIL



TYPICAL FIRE HYDRANT

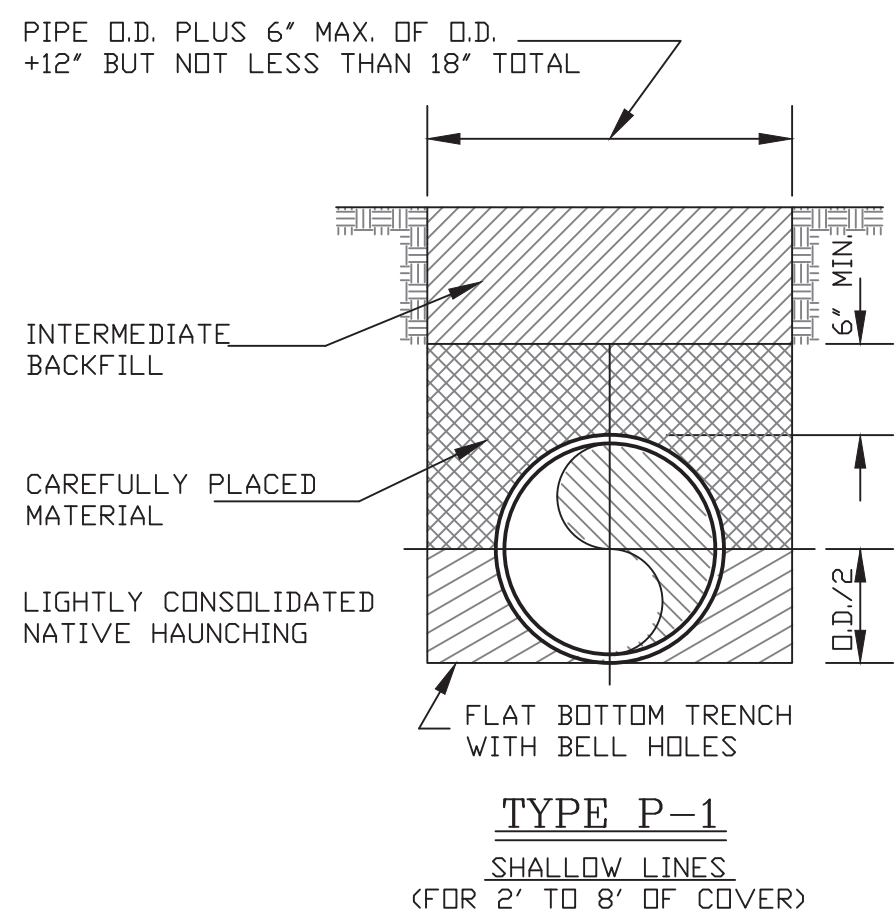
MOT TO SCALE

SPECIAL CONSTRUCTION REQUIREMENTS

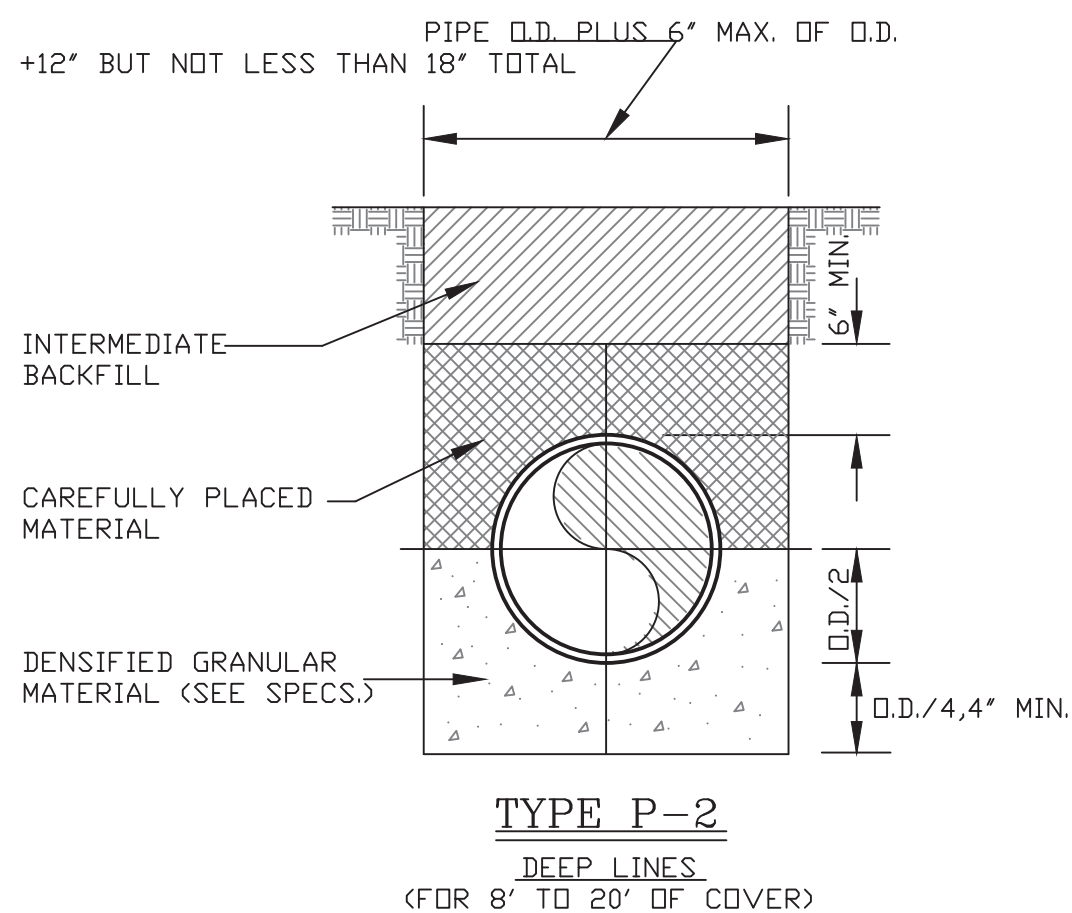


TRENCH & BACKFILL ZONE

STANDARD TERMINOLOGY

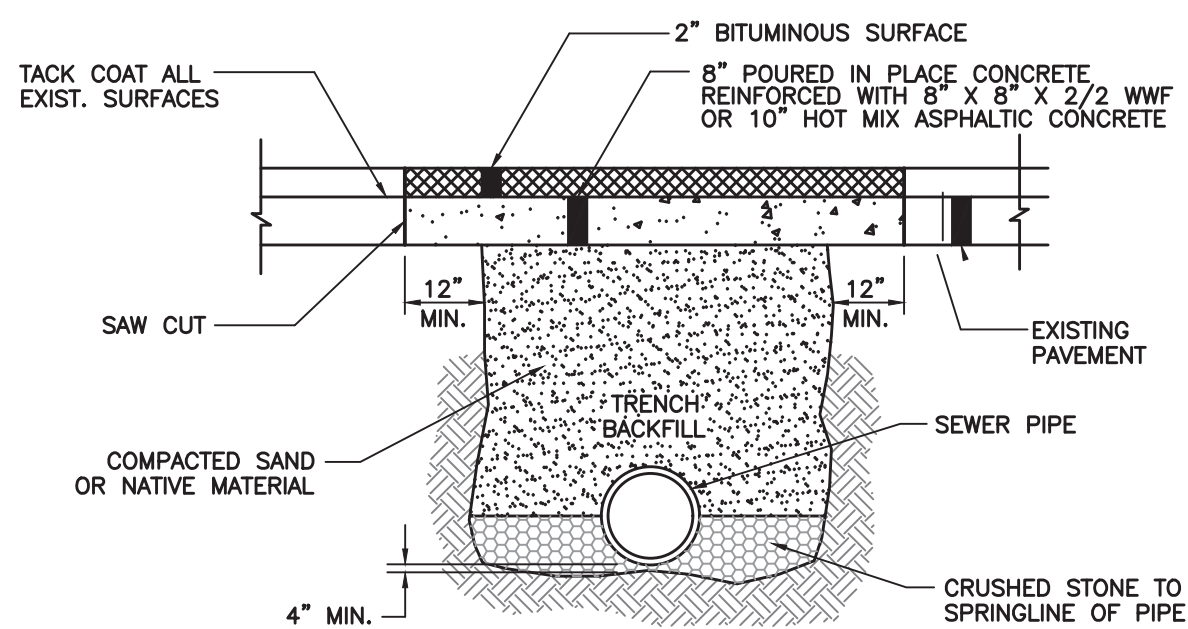


TYPE P-1
SHALLOW LINES
(FOR 2' TO 8' OF COVER)

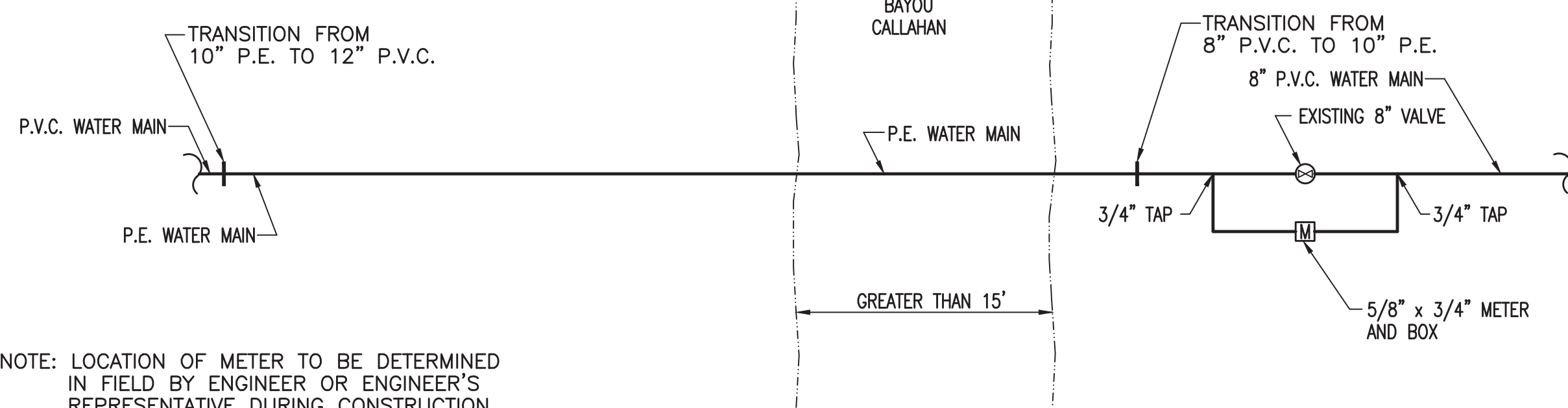


TYPE P-2
DEEP LINES
(FOR 8' TO 20' OF COVER)

PRESSURE PIPE EMBEDMENT



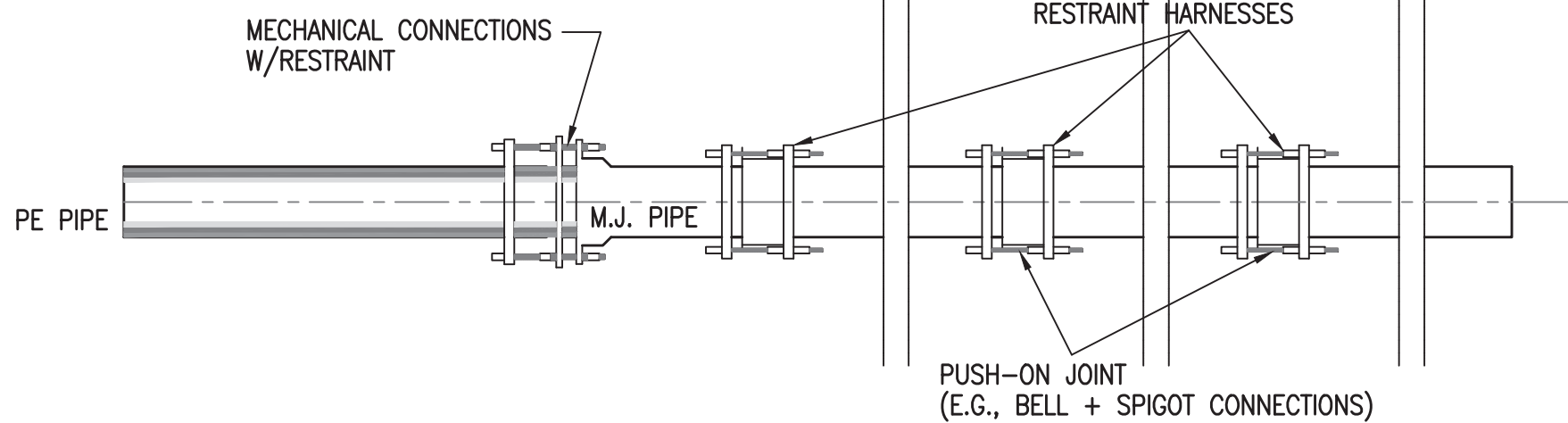
TYPICAL ROAD RESTORATION



NOTE: LOCATION OF METER TO BE DETERMINED IN FIELD BY ENGINEER OR ENGINEER'S REPRESENTATIVE DURING CONSTRUCTION

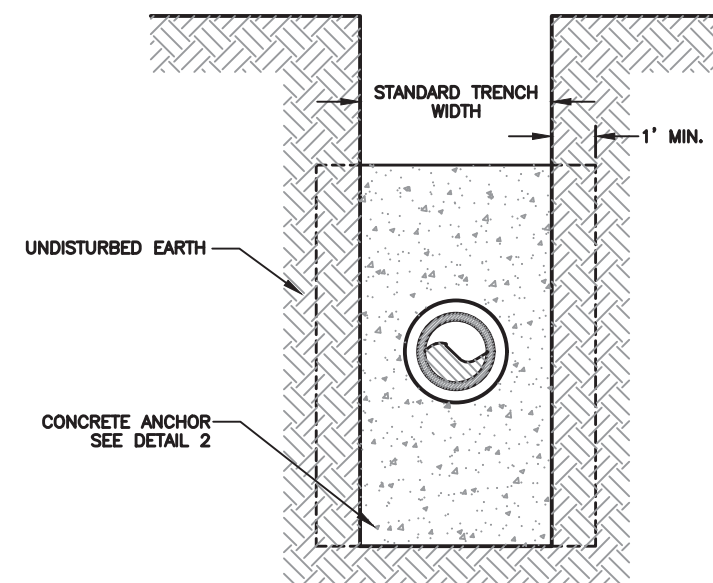
DETAIL OF LEAK DETECTION METER AT BAYOU CALLAHAN CROSSINGS

NTO TO SCALE

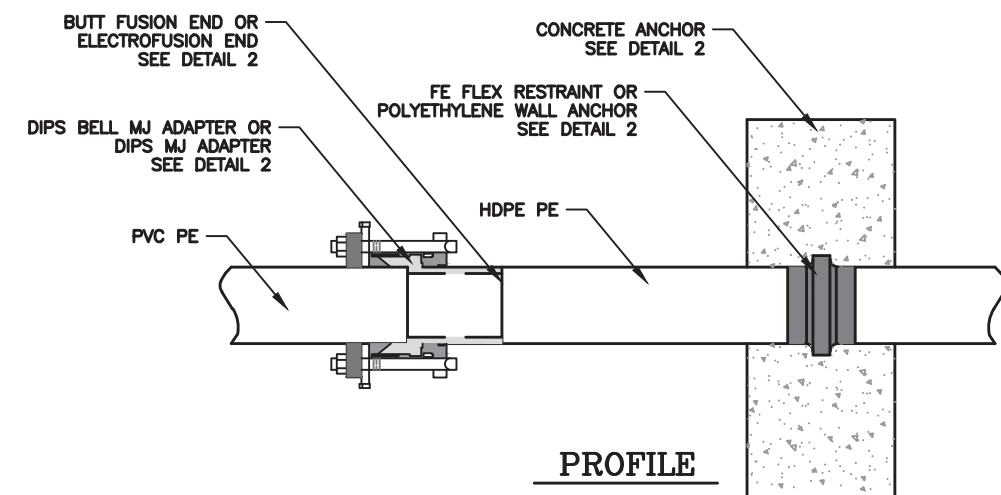


RESTRAINT HARNESS DETAIL FOR PE TO PVC PIPE CONNECTION

N.T.S.

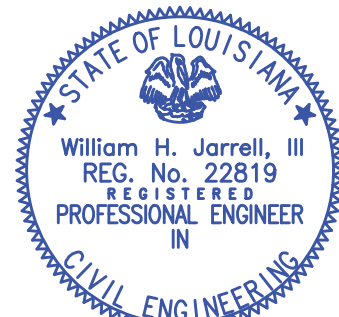


SECTION

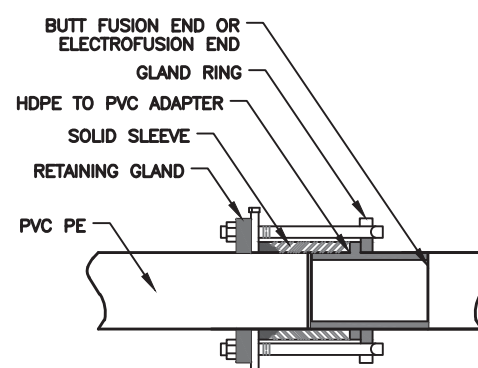


PROFILE

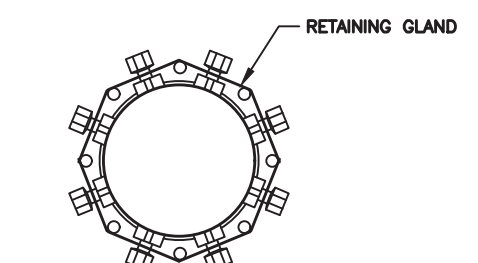
HDPE CONNECTION RESTRAINTS



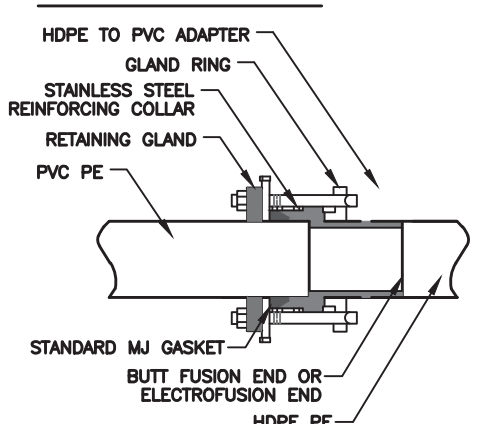
William H. Jarrell, III
06-30-21



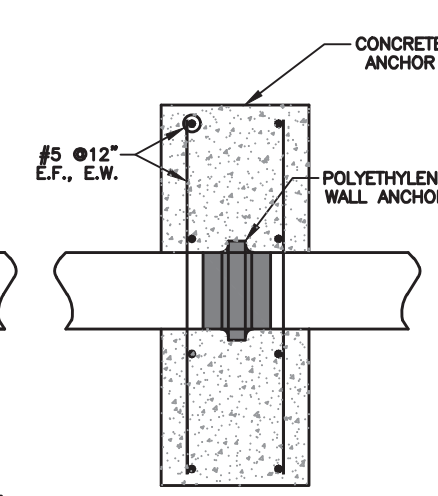
MJ ADAPTER
HDPE TO PLAIN END PVC



RETAINING GLANDS
FOR PVC PIPES

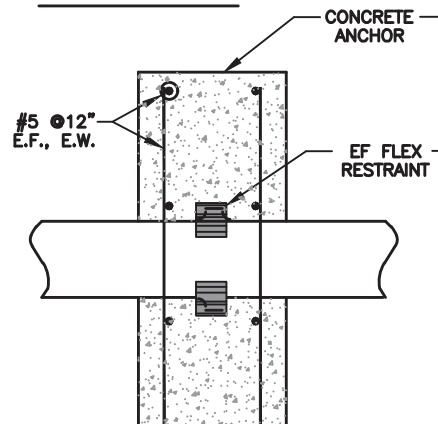
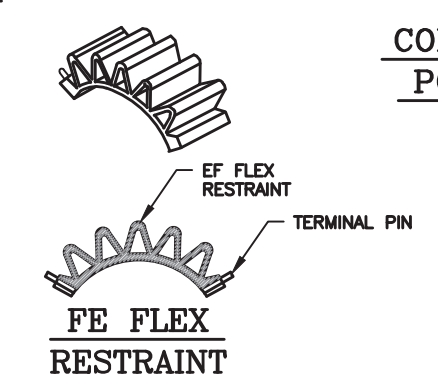


MJ ADAPTER
HDPE TP PLAIN END PIPE



CONCRETE ANCHOR WITH
POLYTHYLENE ANCHOR

CONCRETE ANCHOR TABLE			
PIPE SIZE	W	H	T
8"	4'-9"	4'-4"	12"
10"	6'-9"	4'-8"	12"
12"	9'-2"	4'-8"	12"



CONCRETE ANCHOR WITH FE
FLEX RESTRAINT DEVICE

DETAIL 2 HDPE CONNECTION RESTRAINTS

TYPICAL DETAILS

WATER SYSTEM IMPROVEMENTS
CITY OF OPELOUSAS
ST. LANDRY PARISH, LOUISIANA

SCALE: AS SHOWN
DATE: 06-30-21
DESIGNED BY: WHJ
CHECKED BY: KB III
DRAWN BY: D.L.S.

NO.	DATE	REVISION DESCRIPTION	BY
1	08-24-21	ADDED DETAIL FOR LEAK DETECTION METER	W.H.J.

MORGAN GOUDEAU & ASSOCIATES
consulting engineers
1703 west landry street
OPELOUSAS LOUISIANA